



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,834	01/07/2004	Norman H. Margolus	11656-004002	6366

26161 7590 05/14/2010
FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER

HARPER, ELIYAH STONE

ART UNIT	PAPER NUMBER
----------	--------------

2166

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

05/14/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 10/752,834	Applicant(s) MARGOLUS ET AL.
	Examiner ELIYAH S. HARPER	Art Unit 2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61, 64-67, 167, 168 and 170-191 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61, 64-67, 167-168, 170-191 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 2/8/2010 has been entered. Claims 62, 64, 66, and 179 have been amended; Claims 187-191 have been added. Claims 1-61, 63, 68-166 and 169 have all been previously cancelled. Accordingly, claims 62, 64-67, 167-168, 170-191 are pending in this office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 2166

Claims 61, 64-67, 167-168, 170-191 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6971018 (hereinafter Witt) in view of US 5,107,419 (hereinafter MacPhail).

As for claim 62 Witt discloses: distributed data storage system (See column 3 lines 65-67); sharing among the plurality of storage sites, a set of rules that restrict deletion of the entity versions the sharing comprising (See column 4 lines 63-67 and column 7 lines 35-40)

Communicating the set of rules over the network to the plurality of storage sites and storing information derived from the shared set of rules at each of the plurality of storage sites

and , applying the shared set of rules independently at each of the plurality of storage sites in response to a request by the client program, in order, to separately determine whether or not the portion of the entity version at each site can be deleted (See column 5 lines 35-40 and column 12 lines 61-65, and See column 7 lines 40-50); wherein a client program communicates with the disk-based distributed data storage system only over the network (See column 12 lines 61-65, column 12 lines 60-65);

wherein each of the portions represents at least part of the contents of the entity version and not all of the portions are needed to reconstruct the entire contents of the entity version; and wherein a first request sent by the client program communicating with the disk-based distributed data storage system (See column 4 lines 18-23) causes the shared set of rules to restrict deletion of

Art Unit: 2166

the entity version at each of the plurality of storage sites and wherein a second request sent by the client program after the first request would enable the entity version to be deleted from all of the plurality of storage sites in violation of the restriction caused by the first and the second request is denied wherein no request sent by the client program can enable deletion of the entity version to occur in violation of the restriction (column 12 lines 61-65 note no changes to the file are made unless allowed). Wherein the shared set of rules restrict deletion based at least in part upon a time that was associated with the entity version in response to a request of the client program and wherein a third request sent by the client program after the second request causes the portions of the entity version stored at the plurality of storage sites to be deleted. (See column 4 lines 1-3 and column and column 5 lines 36-40)

Witt does not explicitly disclose recording distinct states of stored data entities, corresponding to different moments of time, as a plurality of entity versions coexisting and storing copies of an entity version that is one of the plurality of entity versions at each of a plurality of storage sites of the distributed data storage system, and wherein a failure event occurs that causes a one of the plurality of storage sites to delete its portion of the entity version in violation of the shared set of rules, and the entity version is subsequently retrieved successfully in response to a retrieval request sent by the client program to the distributed data storage system;

MacPhail however does disclose recording distinct states of stored data entities, corresponding to different moments of time, as a plurality of entity

Art Unit: 2166

versions coexisting (See figure 10), recording distinct states of stored data entities, corresponding to different moments of time, as a plurality of entity versions coexisting (See figure 12a not different types of budgets, memos etc.).

wherein a failure event occurs that causes a one of the plurality of storage sites to delete its portion of the entity version in violation of the shared set of rules, and the entity version is subsequently retrieved successfully in response to a retrieval request sent by the client program to the distributed data storage system; (See column 3 lines 25-30 and See column 12 lines 19-21 note the only outcomes are a valid file operation or a rejected file operation is the command is not valid). It would have been obvious to an artisan of ordinary skill in the pertinent art at the time the invention was made. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since MacPhail's teaching would enable user's of the Witt system to provide simple to use data for managing retention and deletion (See MacPhail column lines 53-61).

As for claim 64, the rejection of claim 62 is incorporated, and further Witt discloses: expiration times are assigned to the entity versions, independently within each of the plurality of storage sites, according to the shared set of rules,

Art Unit: 2166

before which times both modification and deletion are prohibited (See column 4 lines 1-3 and column 5 lines 36-40 note: rules are standard in a distributed where each computer has it's own module rules are calculated locally).

As for claim 65, the rejection of claim 62 is incorporated, and further MacPhail discloses: no single individual is given the authority to override the deletion prohibition at all of the plurality of storage sites (See column 3 lines 59-67 note while the owner/admin can set a range once a file is at the max of the range nothing can be done).

As for claim 66 the rejection of claim 62 is incorporated and further MacPhail discloses: applying the set of rules at a one of the plurality of storage sites determines that an entity version can be deleted and a portion of the entity version is deleted immediately and storage space that was used to store the old portion becomes available to store new data (See column 12 lines 55-65)

As for claim 67 the rejection of claim 62 is incorporated and further MacPhail discloses: applying the set of rules determines that an entity version can be deleted but the entity version is not deleted until deletion is requested by a client of the disk-based distributed data storage system (See column 9 lines 25-36).

As for claim 164 the rejection of claim 62 is incorporated, and further Witt discloses: in which applying the set of rules at a one of the plurality of storage sites determines that the entity version can be deleted and a copy of the entity version is deleted immediately and storage space that was used to store the copy becomes available to store new data (See column 6 lines 20-25 note: when memory is reclaimed it is immediately available).

As for claim 165 the rejection of claim 62 is incorporated, and further Witt discloses in which applying the set of rules determines that the entity version can be deleted but the copies of the entity version are only deleted if deletion is requested by a client of the disk-based distributed data storage system (See column 4 lines 18-22 for disk based system that will be making request and column 12 lines 60-65).

As for claim 167 the rejection of claim 62 is incorporated, and further Witt discloses in which, during a time interval, the shared set of rules prohibits deletion of the entity version while others of the plurality of entity versions are allowed to be deleted (See column 6 lines 1-8 note: only protected files are watched other files are free to be deleted) .

As for claim 168 the rejection of claim 167 is incorporated, and further MacPhail discloses: in which the time interval is a year in length (See figure 10)

As for claim 170 the rejection of claim 167 is incorporated, and further MacPhail discloses in which the client program causes the time interval during which deletion is prohibited to be extended and no subsequent action taken by the client program can cause the time interval to be shortened (See column 2 lines 35-50).

As for claim 171 the rejection of claim 167 is incorporated, and further MacPhail discloses: in which the client program causes the length of the time interval to be set and no subsequent action taken by the client program can shorten the time interval (See column 2 lines 45-57).

As for claim 172 the rejection of claim 171 is incorporated, and further Witt discloses: in which the length of the time interval is initially not set and, before the length of the time interval is set, no action taken by the client program can cause the entity version to be deleted (See column 12 lines 60-65).

As for claim 173 the rejection of claim 167 is incorporated, and further Macphail discloses: in which no action taken by any client program that only communicates with the disk-based distributed data storage system over the network can cause the time interval to be shortened (See column 2 lines 45-55 note: if not action can be taken then no action can be taken)..

As for claim 174 the rejection of claim 62 is incorporated, and further Witt discloses: in which the plurality of entity versions record historical states of a single stored data entity, with each of the plurality of entity versions associated with a historical time interval during which the recorded historical state was the state of the single stored data entity (See column 7 lines 15-25).

As for claim 175 the rejection of claim 174 is incorporated, and further MacPhail discloses: in which the shared set of rules that determine whether or not the entity version can be deleted depend at least in part on the length of the historical time interval associated with the entity version (See figure 10).

As for claim 176 the rejection of claim 174 is incorporated, and further MacPhil discloses: in which the shared set of rules that determine whether or not the entity version can be deleted depend at least in part on whether or not the historical time interval associated with the entity version includes a specified moment of time (See figure 11 note time cannot be before the minimum or after the maximum).

As for claim 177 the rejection of claim 62 is incorporated, and further Witt discloses: in which a stored data entity is a file in a file system or a record in a database or an object in an object storage system (See column 5 lines 32-37).

As for claim 178 the rejection of claim 62 is incorporated, and further Witt discloses: in which two of the plurality of storage sites are at least a mile apart (See column 5 lines 5-7 note: definition of wide area network)

As for claim 179 the rejection of claim 62 is incorporated, and further Witt discloses: in which the set of rules comprise a program that is separate and distinct from the software that implements the disk-based distributed data storage system and sharing occurs at the time when the plurality of entity versions are being stored in the storage system (See column 5 lines 12-19).

As for claim 180 the rejection of claim 62 is incorporated and further Wilt discloses: in which the entity version is a version of a stored data entity and the first request causes a new version of the stored data entity to be stored (See figure 9).

As for claim 181 the rejection of claim 62 is incorporated and further Wilt discloses: in which the first request assigns an expiration time to the entity version, before which time deletion is prohibited (See column 5 lines 35-40).

As for claim 182 the rejection of claim 62 is incorporated and further Wilt discloses: in which the second or third request attempts to delete the entity version or to change the time associated with the entity version (See column 6 lines 5-15).

Art Unit: 2166

As for claim 183 the rejection of claim 62 is incorporated and further Wilt discloses: in which the entity version is a version of a stored data entity and the third request causes a new version of the stored data entity to be stored (See column 5 lines 50- column 6 line 7).

As for claim 184 the rejection of claim 62 is incorporated and further Wilt discloses: in which the time associated with the entity version is a time when the entity version was created, transmitted or stored; or had some property changed; or a time assigned to the entity version (See column 6 lines 5-15)

As for claim 185 the rejection of claim 62 is incorporated and further Wilt discloses: in which the shared set of rules are communicated to the plurality of storage sites at the time that the client program communicating with the disk-based distributed data storage system deposits the entity version into the storage system (See column 1 lines 30-40).

As for claim 186 the rejection of claim 186 is incorporated and further Witt discloses: in which care is taken to ensure that operators and administrators of the disk-based distributed data storage system have no special privileges or physical access that would allow them to circumvent or change the shared set of rules at all of the plurality of storage sites (See column 8 lines 10-15).

As for claim 187 the rejection of claim 62 is incorporated and further MacPhail discloses: in which both the independent application of the shared set of rules at each of the plurality of storage sites and the manner in which information that determines the rules is communicated between storage sites are designed to prevent alterations or corruptions of the operation at a one of the plurality of storage sites from allowing the entity version to be deleted or modified at another of the plurality of storage sites in violation of the restriction on the deletion of the entity version See column 3 lines 25-30 and See column 12 lines 19-21 note the only outcomes are a valid file operation or a rejected file operation is the command is not valid).

As for claim 188 the rejection of claim 62 is incorporated and further Witt discloses: in which the plurality of storage sites communicate with one another over the network in order to achieve fault tolerance against the loss of storage sites (See figure 6).

As for claim 189 the rejection of claim 62 is incorporated and further MacPhail discloses: in which the shared set of rules do not, without additional information, determine a moment of time after which deletion is allowed (See column 9 lines 30-36)

As for claim 190 the rejection of claim 62 is incorporated and further MacPhail discloses: in which the shared set of rules together with a specification

Art Unit: 2166

of a starting time do not, without additional information, determine a moment of time after which deletion is allowed (See column 9 lines 30-35 note there is a minimum value and a maximum value both of which are specified).

As for claim 191 the rejection of claim 62 is incorporated and further Witt discloses: in which the sharing step further comprises: determining the set of rules to share from a request by the client program (See column 2 lines 40-55)

Response to Arguments

Applicant's arguments filed 2/8/2010 have been fully considered but they are not persuasive.

Applicant argues:

The examiner relies on two sentences in Witt (col 3, line 65), which read, "The invention may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. In a distributed computing environment, program modules may be located in both local and remote memory storage devices." This is the entire discussion of distributed computing in Witt, and this in no way teaches the subject matter of the independent claim. To make this distinction even clearer, the independent claim has been amended. The step of applying the shared set of rules now reads, "applying the shared set of rules independently at each of the plurality of storage sites, in response to a request by the client program, in order to separately determine whether or not the portion of the entity version at each site can be deleted". This is further clarified by the added clauses, "wherein each of the portions represents at least part of the contents of the entity version, and not all of the portions are needed to reconstruct the entire contents of the entity version", and "wherein a failure event occurs that causes a one of the plurality of storage sites to delete its portion of the entity version in violation of the shared set of rules, and the entity version is subsequently retrieved successfully in response to a retrieval request sent by the client program to the distributed data storage system".

Art Unit: 2166

Examiner responds:

Examiner is not persuaded. Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification. Interpretation of Claims-Broadest Reasonable Interpretation: During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969). In this case the claim limitation in question reads in part "wherein a failure event occurs that causes a one of the plurality of storage sites to delete its portion of the entity version in violation of the shared set of rules" however the term "failure event" is broad and essentially is just interpreted and as event that cause the deletion of the entity version in violation of the share rules since that would be failure in terms of a systems retention rules.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIYAH S. HARPER whose telephone number is (571)272-0759. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2166

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ESH
Elijah S. Harper
May 7, 2010

/Khanh B. Pham/

Primary Examiner, Art Unit 2166